Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Report on a Comprehensive Rural Broadband Strategy	)	GN Docket No. 09-29
Section 6112 of the 2008 Farm Bill	)	WT Docket No. 07-293

To: Wireline Competition Bureau and Wireless Telecommunications Bureau

COMMENTS

DigitalBridge Communications Corp. ("DBC") is pleased to provide comments in the above-referenced matter to the Wireline Competition Bureau and the Wireless Telecommunications Bureau (the "Bureaus") recommending ways in which the Federal Communications Commission ("Commission") and the Department of Agriculture ("Department") can "best respond to rural broadband" and "overcome obstacles that currently impede rural broadband deployment."[1]

In DBC's view, any comprehensive rural broadband strategy should support wireless broadband as the most expeditious, least expensive, most future-proofed solution for bringing quality broadband and advanced wireless services to rural areas. To that end, steps must be taken to: (A) ensure the availability of adequate licensed wireless broadband spectrum so that mobile broadband services can be deployed to rural America; (B) make it a priority to fund pending broadband loan applications for worthy applicants and target future broadband stimulus funds in a manner that extends funding to the greatest number of communities; and (C) ensure that affordable middle-mile backhaul is available for broadband services dedicated to rural and remote areas.

I. BACKGROUND.

DBC knows first-hand the challenges and opportunities of bringing meaningful broadband to rural communities and the difference it makes in the lives of rural consumers. DBC's primary mission is to bring affordable broadband to rural, remote, unserved and underserved communities. Today, under the name BridgeMAXX, DBC provides wireless broadband service to 15 underserved

[1] *See* Food, Conservation and Energy Act of 2008, Pub. L. 110-246, 122 Stat. 1651, at 1966.

and rural communities, covering 600,000 people, using fixed and mobile WiMAX technology.[2] The experience of DBC's management in deploying broadband to rural and underserved markets, over a number of years and multiple platforms, yields important observations that may be helpful for the Commission's and the Department's recommendations to Congress on a comprehensive rural broadband strategy.

DBC is the largest private WiMAX operator in the United States, targeting third-tier and smaller markets, with populations as small as 2,000 people. In June 2007, DBC launched the first, standards-based commercial WiMAX system in the United States in Rexburg, Idaho.[3] In June 2008 it deployed the first, commercial mobile WiMAX system in the country. Three to four months later, DBC launched Voice over Internet Protocol service ("VoIP") over its WiMAX systems. Today, as a result of DBC's demonstrated, repeatable and scalable community model, DBC provides fixed and mobile wireless broadband services, and wireless VoIP services, to over 22,000 subscribers. DBC is proud that its networks bring next-generation broadband capabilities to rural America first, "leapfrogging" technology that is not even available to most consumers in urban areas yet. DBC's efforts bring local jobs to these areas in the form of network engineers, technicians, and sales people. DBC's partnership with Arise also ties local communities to the broader economy through "home-sourced" customer care agents, enabled with DBC service, that are able to work from their homes, performing customer service functions for companies around the country.[4]

DBC's management has in-depth experience providing broadband access to underserved markets and decades of experience in the communications industry. The DBC management team built a competitive local exchange carrier, OnePoint Communications, which became Verizon Avenue -- a wholly-owned subsidiary of Verizon Communications. OnePoint and Verizon Avenue each provided bundled communications services to concentrated communities, underserved and remote communities principally over wireline facilities. DBC's management led Verizon Avenue to extend broadband to four important market segments: (1) rural, unserved and underserved areas; (2) military housing; (3) affordable public housing; and (4) Tribal lands. These often-neglected markets are precisely the markets DBC targets for affordable, advanced wireless broadband services today.

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[2] BridgeMAXX service is available in Idaho Falls, ID, Pocatello, ID, Rexburg, ID, Sun Valley, ID, Twin Falls, ID, Connersville/Liberty, IN, , Washington, IN, Vincennes, IN, Richmond, IN, Jackson, WY, Butte, MT, Great Falls, MT, Missoula, MT, Sioux Falls, SD, and Appomattox, VA.

[3] DigitalBridge Communications Corp., *DigitalBridge Communications Launches Portable High-speed Internet Service in Rexburg, Idaho using Alvarion's 802.16e WiMAX Platform* (June 11, 2007) http://www.digitalbridgecommunications.com/tabid/88/Default.aspx.

II. A COMPREHENSIVE RURAL BROADBAND STRATEGY SHOULD SUPPORT WIRELESS BROADBAND AS THE QUICKEST, MOST COST-EFFICIENT, MOST FUTURE-PROOFED SOLUTION FOR BRINGING QUALITY BROADBAND SERVICE TO RURAL AREAS.

Decades of experience in the communications industry leads DBC management to conclude that a critical component of any comprehensive rural broadband strategy must be promotion of wireless broadband technology as the least expensive and most technologically advanced platform for bringing broadband service to rural and remote areas. The experience of DBC's management in evolving from wireline to wireless solutions, and the experience of numerous other carriers and equipment manufacturers worldwide, validates that wireless broadband affords the most expeditious, cost-efficient and future-proofed deployments for rural America.

DBC's experience in Appomattox, VA is a perfect example of this proposition. DBC was able to deploy wireless broadband service to a portion of this rural county with a state grant that covered part of the network capital. It took three months to deploy service. Within one month, 10% of the covered households subscribed to the service. Within three months, the Appomattox system was cash-flow positive. After one year, 32% of the covered households subscribed to the service, and DBC now plans to expand coverage of its network to serve additional unserved areas of the county.

For service to rural areas, there can be no question that wireless broadband networks are the most effective and efficient means of delivering broadband. First, due to the simplicity of the architecture, wireless broadband systems can be quickly deployed in rural areas. DBC is able to launch most services in rural areas within 6-9 months. Compare this to cable, DSL or fiber deployment which often takes years to deploy in sparsely populated areas and may never reach the entire community.

Second, with all the right metrics, including access to affordable, licensed spectrum and access to affordable middle-mile backhaul, DBC is able to provide WiMAX services to the communities it serves for under $50 per household passed. DBC's WiMAX deployments are, therefore, capable of serving approximately 20-50 times the number of households per network dollar spent versus comparable landline solutions.[5] Building on the advantages of WiMAX economics, DBC has developed a highly scalable network with a variable-cost-based back office platform that

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[4] Arise, http://www.arise.com/Content/default.asp (last visited Mar. 23, 2009).

[5] *See www.dailywireless.org/2008/08/20/fios-too-risky; See also,* Light Reading, *Figuring Fios* (Sept. 27, 2006) http://www.lightreading.com/document.asp?doc_id=104753; Verizon, *What is Fios?* (May 2007) http://newscenter.verizon.com/kit/nxtcomm/Product-sheet-FiOS-1Q07.pdf.

enables DBC to bring wireless broadband to rural communities nationwide at a fraction of the cost of traditional solutions. In very low household density areas, the costs of deploying fiber, cable and DSL solutions are enormous which has led to the digital divide we have today.

Third, using WiMAX technology and licensed spectrum, DBC is able to offer a reliable, sustainable, high-quality broadband service, with speeds exceeding 2 Mbps. In addition, unlike cable or DSL plant that is buried in the ground, wireless broadband solutions are future-proofed and can be easily upgraded to include mobility or additional system capacity, enhancing performance of the system without the need to dig up streets and upset the environment. In fact, DBC has already upgraded some of its wireless systems to the newest generation WiMAX platform, all without having to change or remove any hardware. The standards-setting community anticipates that the WiMAX infrastructure deployed today, with modest network improvements, will be capable of reaching speeds exceeding 12Mbps and system capacity will be increased fourfold without any stranded capital investment.[6]

Given the advantages of wireless broadband for rural service, DBC urges the Commission and the Department to consider ways in which government can help advance wireless broadband deployments by: (A) quickly making more licensed spectrum available for wireless broadband; (B) giving priority to grant and loan applications that propose the most cost-effective broadband solutions; and (C) taking steps to ensure that middle-mile backhaul is available and affordable.

A. STEPS MUST BE TAKEN TO MAKE AFFORDABLE LICENSED SPECTRUM AVAILABLE FOR MOBILE WIRELESS BROADBAND SERVICES FOR RURAL AREAS.

As The Washington Post reported last year, DigitalBridge is having great success in rolling out advanced wireless broadband services in rural areas.[7] The most significant impediment to providing these needed services, however, is the lack of available, affordable and suitable licensed spectrum. Wireless Communications Service ("WCS") spectrum could fill this void, but final technical rules allowing mobility must be adopted.[8] An important first step in ensuring the availability of licensed spectrum for mobile wireless broadband services, then, must be concluding

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[6] www.wimaxforum.org/sites/wimaxforum.org/files/documentation/2009/080717_Rel1.x_Air_IF_Requirement.pdf

[7] Zachary A. Goldfarb, *Surfing Roads Less Traveled; Ashburn Firm Makes WiMax a Reality in Small-Town America*, Washington Post, June 30, 2008, at D1.

[8] Educational Broadband Service ("EBS") and Broadband Radio Service ("BRS") spectrum at 2.5 GHz also could help fill the void. There is significant vacant spectrum in this band. However, there has been a freeze on applications for new EBS spectrum since 1995 and the last time BRS spectrum was made available through auction was 1996. Making vacant EBS and BRS spectrum available for broadband service also should be a priority.

the WCS / SDARS (Satellite Digital Audio Service ("SDARS")) rulemaking. This rulemaking has been pending at the Commission for nearly 12 years.[9]

The Commission and the Department should take note that making mobile wireless broadband technology available to rural communities is a priority of Congress. In a Congressional Joint Explanatory Statement regarding Section 6111 of the Farm Bill, a provision related to the National Center for Rural Telecommunication Assessment, conferees stated that the Secretary of Agriculture is expected to:

> consider the unique way of life in rural America and to be mindful that *mobile broadband technologies* are applicable to farmers, ranchers, and small rural business owners. *Fixed broadband service will continue to be important in rural homes and offices, but mobile technologies also may have a role to play in expanding broadband access to rural residents.* The Managers expect the Secretary to weigh all appropriate technologies, including the unique characteristics of mobile broadband service and technologies, during consideration of applications.[10]

DBC wholeheartedly agrees with the Farm Bill conferees – rural consumers need mobile broadband because of the way they live and work. It is within the Commission's grasp to make ideal wireless broadband spectrum available for mobile broadband deployments in rural areas.[11] Commission inaction in the WCS/SDARS rulemaking has frustrated industry and Commission members alike. As Commissioner Adelstein noted when the XM – Sirius merger was approved, the Commission is standing in the way of rural broadband deployment:

> I am discouraged that the Commission has not yet decided the interference issues between the SDARS and Wireless Communications Service ("WCS") in the 2.3 GHz band. That these issues have been before the Commission for over a decade is completely unacceptable.... The longer we delay implementing rules governing the coexistence of SDARS and WCS, the longer we delay WCS rollout of critical wireless broadband services to rural, unserved and underserved areas. It is not enough to talk about rural broadband deployment. We need to do something about it. Here, we are in fact standing in the way. We need to act, and do so in a way which promotes broadband and protects listeners of satellite radio.

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[9] *See Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 5754 (1997).

[10] *See* J. Exp. Stat. at 149; Food, Conservation and Energy Act of 2008, Pub. L. 110-246, 122 Stat. 1651 (2008) (*emphasis added*); *see also* Food, Conservation, and Energy Act of 2008, Conf. Rep. No. 110-627, at 834 (2008).

[11] Unlike other spectrum bands, WCS spectrum is otherwise unencumbered for wireless broadband deployments today. WCS spectrum covers large geographic areas and the transaction costs to use the spectrum are low compared to other bands that are available for wireless broadband – an important factor to ensuring cost-effective service in rural services.

> Today, I urge my colleagues to determine final technical rules so that WCS licensees can manufacture compliant equipment and devices.[12]

These comments were made by Commissioner Adelstein **eight** months ago, and still the Commission has taken no action to free the WCS spectrum so that it can be used for mobile wireless broadband applications in rural areas. Given that the WCS/SDARS rulemaking has been pending for over a decade, with no solutions from industry, this is obviously not a matter the Commission can leave to industry to resolve, nor is it a matter the Commission can place on the back-burner in favor of other higher-profile matters. Consistent with the desire of Congress for mobile wireless broadband technology options for rural America, the Commission must take action, without delay, to make suitable spectrum available. Mobile WCS spectrum is needed before the first funding window opens for broadband grants and loans this June, 2009.

B. ALL STEPS NECESSARY TO FUND PENDING BROADBAND LOAN APPLICATIONS SHOULD BE TAKEN AND PRIORITY SHOULD BE GIVEN TO FUTURE GRANT AND LOAN APPLICATIONS THAT WILL EXTEND STIMULUS DOLLARS BY PROPOSING THE MOST COST-EFFECTIVE BROADBAND DEPLOYMENTS FOR SPARSELY POPULATED AREAS.

As the Department is aware, industry has been critical of the Rural Utilities Service ("RUS") due to the pace with which broadband loans are made.[13] RUS has been conducting rulemakings and responding to legislative mandates to improve the Broadband, Distance Learning and Telemedicine programs. How RUS can best conduct its loan-making activities should be addressed as part of a comprehensive rural broadband strategy. DBC is a big believer in the programs administered by RUS. Given DBC's focus, its proven track record, and its results for rural America, DBC hopes that it is the model loan or grant recipient for RUS funding. With a number of loans pending before the RUS, DBC looks forward to rapidly finalizing those loans and speeding the deployment of wireless broadband services to rural America.

With respect to future federal broadband funding for rural broadband deployments, DBC encourages the Commission, the Department and NTIA to consider the following:

- Rural broadband projects should not be singled out for loans that must be repaid while broadband projects for unserved and underserved areas receive grants. Instead, existing and future NTIA and RUS broadband programs should exclusively make grants to fund rural broadband service. This recommendation also should apply to the $1.3 billion

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[12] *XM Radio, Inc.*, Order, 23 FCC Rcd 12327, Statement of Commissioner Adelstein (2008).

[13] Bradley Kramer, *A Good First Step for Communications Development*, Last Mile Online (Feb. 26, 2009) http://www.lastmileonline.com/index/webapp-stories-action?id=407 (noting RUS "does not have a great track record" for processing and awarding grants and loans swiftly).

contained in the President's FY2010 budget for rural service.[14] Rural areas, more than unserved and underserved areas, require cost-efficient business models to be successful and to pass along the lowest-cost service to rural consumers. This can more easily occur if rural broadband projects are funded with grants and not loans.

- Make "cost" one of the most important factors in evaluating grant and loan applications, similar to mandates found in the Universal Service Fund E-rate program.[15] Wireless broadband projects that can extend meaningful broadband to the largest number of users in rural areas at the lowest cost and the fastest pace should be given a priority. As discussed above, DBC's WiMAX deployments serve 20-50 times the number of households per network dollar spent versus comparable landline solutions. Prioritizing grants for wireless broadband projects should result in spreading public funds for broadband to the greatest number of communities at the fastest possible pace.
- Promote inter-agency coordination to support rapid deployment of broadband in rural America by adopting uniform definitions, rules, processes and applications. Commonality of forms and processes should expedite filing and processing of grant and loan applications.
- Grant broadband funds to entities that have a proven track-record of providing broadband service to rural areas, are shovel-ready, have the necessary systems, resources and deployment capabilities in place, have nationwide resources and affiliates, and have the know-how to make rural broadband offerings a success. Federal funding for broadband projects, especially for rural areas, should never be a gamble.
- Make "thumbs up" or "thumbs down" decisions on broadband grant and loan applications no later than 90 days after such applications are filed. Such a rule would expedite funds into the market, and would make clear to all stakeholders what funds are still available for worthy projects when the next funding window opens.
- Avoid rigid constructs of how much funding is made available at any one time (i.e., 1/3 in each window).[16] Instead, the agencies should focus on how many worthy projects deserve funding in any given funding window. If $7.2 billion in worthy projects are proposed in the first filing window, then all grants should be made.
- Avoid setting mandatory "speeds" for broadband. Require, instead, that broadband systems deployed in rural areas are "future-proofed" and can easily adapt as technology improves. For rural areas there needs to be a realistic evaluation of what speed is fast

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[14] The President proposed $1.3 billion in loans and grants to "increase broadband capacity and improve telecommunications and education and health opportunities in rural America." President Obama's FY2010 Agriculture Department Budget, available at http://www.obpa.usda.gov/doc/USDAFY10.pdf.

[15] For the E-rate program, cost is not the only factor to be considered in choosing a service provider, but it is supposed to be the most important factor. *See* 47 C.F.R. §§ 54.504(b)(2)(vii), 54.511(a); *see also* USAC, http://www.usac.org/sl/applicants/step04/construct-evaluation.aspx (last visited Mar. 24, 2009) (instructing "When an applicant examines and evaluates the bids received for eligible services, it must select the most cost-effective bid. This means that the price should be the primary factor, but does not have to be the sole factor.").

[16] *American Recovery and Reinvestment Act: Hearing on Private Sector Eligibility; Coordination between NTIA and RUS on Broadband Initiatives; Innovative Programs to Encourage Sustainable Adoption of Broadband Service and Expanding Public Computer Center Capacity before the U.S. Department of Agriculture, Rural Utilities Service, and the U.S. Department of Commerce, National Telecommunications and Information Administration*, NTIA – RUS Joint Hearing (March 16, 2009).

enough, assuring that the greatest number of people are served with meaningful broadband at the lowest cost.[17]

- Refrain from waiting for broadband mapping, or comprehensive broadband strategies as a precondition to making loans and grants for needed rural broadband service. Require applicants to provide broadband maps for the areas they wish to serve as part of justifying funding for their applications.
- Eliminate rules that preclude funding of grant or loan applications based on prior applications made to the RUS to provide broadband service in a community. One service provider is never enough. Being "served" means having more than one provider available to provide affordable and competitive broadband service.

DBC believes that if the Commission and the Department recommend and implement the foregoing measures in any broadband funding programs, now and in the future, the result will be both expeditious grant of worthy broadband loan and grant applications, and expeditious deployment of needed broadband services in rural areas.

C. IN ORDER TO ENSURE AFFORDABLE BROADBAND SERVICE FOR RURAL CONSUMERS, CONGRESS AND THE COMMISSION MUST TAKE STEPS TO MAKE CERTAIN THAT MIDDLE-MILE BACKHAUL FOR RURAL OPERATIONS IS AVAILABLE AND AFFORDABLE.

A comprehensive rural broadband strategy must take notice of the importance of middle-mile backhaul and ensure that it is affordable and available for broadband services dedicated to rural and remote areas. The Commission has defined the middle-mile as facilities that provide relatively fast, large-capacity connections between the Internet backbone and last mile.[18] Middle-mile facilities can range from a few miles to a few hundred miles, especially in rural areas.[19] The middle-mile is typically constructed with fiber, but microwave and satellite links also can be used.

The lack of middle-mile infrastructure is one of the greatest obstacles to building sustainable rural broadband networks. Many middle-mile facilities were originally built by telephone and cable companies for ordinary telecommunications or cable television services. Rural communities are

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[17] Press Release, Consumer Federation of America, Building a New Communications System for America at the Grassroots Level, The Right Stimulus for Broadband Telecommunications: A Vibrant, 21st Century Community Communications Ecology Requires Physical Infrastructure, Human Skills and Social Tools, Consumer Federation of America (January 2009).

[18] *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Third Notice of Inquiry, 16 FCC Rcd 15515 (2001).

[19] The typical rural ISP is 91 miles from its primary backbone Internet connection and faces considerable costs to transport traffic to and from the backbone. Benjamin Lennett & Sascha Meinrath, *Building a 21st Century Broadband*

often still reliant upon these antiquated copper telephone and cable infrastructures, which lack the capabilities to deliver high-speed, broadband access.[20] In examining the rapid decline of our national technological leadership, the New America Foundation found that:

> Without a substantial investment to bring adequate fiber connectivity to rural communities, an increase in the number of interconnection points and routes, and improved competition in the middle-mile, the U.S. broadband market and the sectors of the economy that rely upon it will continue to lag behind other industrialized nations. Competitive broadband networks will hit a wall in terms of speed and pricing as the capacity costs associated with increased traffic to the backbone will grow faster than profits, forcing prices higher and limiting competition. The current nationwide economic decline is likely to further diminish private investment in telecommunications infrastructure, thereby creating conditions that increase the digital divide, inhibit competition, lessen our ability to gain parity with other advanced nations, and further hamper economic recovery and expansion.[21]

DBC has been able to bring cost-efficient and affordable wireless broadband to rural communities, but only where it has access to affordable middle-mile backhaul. When considering markets to serve, one of DBC's essential considerations is whether it can acquire middle-mile backhaul facilities at economic rates. In Idaho, for example, DBC partners closely with Syringa Networks, a cooperative fiber backhaul provider that serves many larger communities. Due to the capital efficiency of WiMAX deployments, DBC would be able to extend the reach of Syringa's fiber network into rural, unserved and underserved communities if more fiber is deployed to these areas. Additionally, if funds are made available so that more fiber huts that *travel* through these smaller communities are opened for interconnection, DBC would have even more opportunity to extend broadband services to more underserved towns.

DBC also is of the view that middle-mile backhaul projects only should be funded with federal dollars if they are associated in some respect with a broadband project for last-mile access. Ideally, broadband service providers should be required to include middle-mile facilities as part of any comprehensive grant or loan application, thereby minimizing the prospects for stranded middle-mile investment. If middle-mile facilities are funded separately, a risk is run that middle-mile capabilities will be built to nowhere.

Superhighway: A Concrete Build-out Plan to Bring High Speed Fiber to Every Community, New America Foundation (January 2009) http://www.newamerica.net/publications/policy/building_21st_century_broadband_superhighway.

[20] *Id.*

[21] *Id.*

III. CONCLUSION.

The void in affordable broadband access solutions for rural areas has effectively denied participation in our economy and other essential services for millions of Americans. As President Obama has made clear,[22] broadband availability is essential to productivity and economic development in rural communities, and participation in our democratic processes. It is key to improving education, public safety, health care, energy distribution, transportation systems and other public services. DBC respectfully submits to the Bureaus and the Commission that any comprehensive rural broadband strategy must support wireless broadband as the most expeditious, least expensive, most future-proofed solution for bringing quality broadband to rural areas. To that end, DBC respectfully submits that the Commission and the Department should take steps to: (A) ensure the availability of licensed wireless broadband spectrum so that meaningful mobile broadband services can be deployed to rural America; (B) make it a priority to expeditiously fund pending broadband loan applications for worthy applicants, and target future broadband stimulus funds in a manner that extends funding to the greatest number of communities; and (C) ensure that affordable middle-mile backhaul is available for broadband services dedicated to rural and remote areas.

Respectfully submitted,

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March 25, 2009

[22] "Let us be the generation that reshapes our economy to compete in the digital age. Let's set high standards for our schools and give them the resources they need to succeed . . . let's invest in scientific research, and let's lay down broadband lines through the heart of inner cities and rural towns all across America." President-elect Obama's Presidential Announcement Speech in Springfield, IL.

CERTIFICATE OF SERVICE

I, Peter M. Andros, certify on this 25th day of March, 2009, a copy of the foregoing Comments of DigitalBridge Communications Corp. has been served via electronic mail to the following:

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